

## Série 2

Ex3 a)  $D(h): x \neq [x]$

$$x = [x] \Leftrightarrow x \in \mathbb{Z}$$

$$D(h) = \mathbb{R} \setminus \mathbb{Z}$$

b)  $D(k): \cancel{x^3 - x} \neq 0$

$$x^3 - x = 0 \quad x(x^2 - 1) = 0 \quad x = 0; \pm 1$$

$$D(k) = \mathbb{R} \setminus \{-1, 0, 1\}$$

c)  $D(l): 1 - x^2 \geq 0 \quad (1-x)(1+x) \geq 0$

$$\begin{array}{c} \hline -1 \quad + \quad 1 \quad - \\ \hline \end{array}$$

$$D(l) = [-1, 1]$$

d)  $D(l): 1 - x^2 \geq 0 \quad \text{et} \quad 1 - \sqrt{1 - x^2} \geq 0$

$$1 - x^2 \geq 0 \Leftrightarrow x \in [-1, 1]$$

$$1 - \sqrt{1 - x^2} \geq 0 \quad 1 \geq \sqrt{1 - x^2}$$

$$1 \geq 1 - x^2 \quad 0 \geq -x^2$$

$$x^2 \geq 0 \quad \text{OK}$$

$$\text{donc } D(l) = [-1, 1]$$

Ex4  $(f \circ g)(x) = f(g(x)) = f(\sqrt{x}) \quad x \geq 0$

$$= \sqrt{x^2 - 16} \quad x \geq 0$$

$$= x - 16 \quad x \geq 0$$

$$D(f \circ g) = [0, +\infty[$$

$$(g \circ f)(x) = g(f(x)) = g(x^2 - 16)$$

$$= \sqrt{x^2 - 16} \quad x^2 - 16 \geq 0$$

$$x^2 - 16 = (x - 4)(x + 4) \geq 0$$

-4 inclus



$$D(g \circ f) = ]-\infty, -4[ \cup [4, +\infty[$$

a) Ex 5

$f+g$		$g$	
P	I	P	I
P	P	-	-
I	I	-	I

$f \cdot g$		$g$	
P	I	P	I
P	P	I	I
I	I	P	P

$g \circ f$		$f \cdot g$	
P	I	P	I
P	P	P	P
I	I	P	I